U.S. Patent Application Serial No. 09/830,232
Reply to Office Action dated February 7, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-8.   (Cancelled)

9.   (Currently Amended) A device for the reception of a multicarrier signal, formed by a set of carrier frequencies, said device implementing at least two reception paths supplied with data flows, each conveying a same source symbol ($x_k(n)$), each of said reception paths comprising ~~estimation means~~ an estimator associating with each source symbol received, an estimated path value and a corresponding confidence information element, wherein said source symbols are conveyed by a subset of said set of carrier frequencies, said device comprising means for ~~combination of~~ combining said estimated path values delivering:

an adapted estimated value, obtained from said estimated path values, in taking account of said path confidence information to weight said estimated path values; and

an adapted confidence information element, ~~and~~ said device further comprising:

a weighted-input ~~decoding means~~ decoder supplied by said adapted estimated value, wherein said means for ~~the combination~~ combining computes said adapted estimated value as follows:

$$\hat{x}_{Adap,n} = \left(\sum_{i=1}^{N} cnfd_{i,n} \times \hat{x}_{i,n} \right) / \left(\sum_{i=1}^{N} cnfd_{i,n} \right)$$

where:

$\hat{x}_{i,n}$ is the estimated value of the symbol received on the path i;

$cnfd_{i,n}$ is the corresponding ~~path~~ confidence information element; and

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N is the number of paths.

10.   (Currently Amended) A device for the reception of a multicarrier signal, formed by a set of carrier frequencies, said device implementing at least two reception paths supplied with data flows, each conveying a same source symbol ($x_k(n)$), each of said reception paths comprising ~~estimation means~~ an estimator associating with each source symbol received, an estimated path value and a corresponding confidence information element,

said source symbols being conveyed by a subset of said set of carrier frequencies,

said device comprising means for ~~combination of~~ combining said estimated path values delivering:

an adapted estimated value, obtained from said estimated path values, in taking account of said corresponding path confidence information to weight said estimated path values, and;

an adapted confidence information element, as a sum of said path confidence information elements, ~~and~~ said device further comprising:

a weighted-input ~~decoding means~~ decoder supplied by said adapted estimated value, wherein said means for ~~combination~~ combining computes said adapted confidence information element as follows:

$$cnfd_{Adap,n} = \sum_{i=1}^{N} cnfd_{i,n}$$

where:

$cnfd_{i,n}$ is the corresponding confidence information element associated with the path i; and

N is the number of *paths*.

11.   (Previously Presented) A device for reception according to claim 9, wherein the reception device implements at least two antennas supplying distinct reception paths.

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12.   (Currently Amended) A device for reception according to claim 9, wherein each of said reception paths comprises a first module shaping and demodulating the received signal and a second module determining said estimated path values and said corresponding confidence information elements, said device further comprising a single module supplied by said second module of each reception path, and providing for said means for ~~combination~~ combining said adapted estimated values and said weighted-input ~~decoding means~~ decoder supplied with said adapted estimated value.

13.   (Previously Presented) A device for reception according to claim 10, wherein the reception device implements at least two antennas supplying distinct reception paths.

14.   (Currently Amended) A device for reception according to claim 10, wherein each of said reception paths comprises a first module shaping and demodulating the received signal and a second module determining said estimated path values and said corresponding confidence information elements, said device further comprising a single module supplied by said second module of each reception path, and providing for said means for ~~combination~~ combining delivering said adapted estimated values and said weighted-input ~~decoding means~~ decoder supplied with said adapted estimated value.

15.   (Currently Amended) A method for the reception of a multicarrier signal, ~~former~~ formed by a set of carrier frequencies transmitted simultaneously, implementing at least two reception paths supplied with data flows, each conveying the same source symbols, each of said paths implementing a step of ~~estimation of the~~ estimating of a transmission channel associating, with each source symbol received, an estimated path value and a corresponding path confidence information element a source symbol being conveyed by a subset of said set of carrier frequencies, said method comprising:

       a combination step of delivering:

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an adapted estimated value, obtained from said estimated path values in taking account of said <u>corresponding</u> path confidence information <u>element</u> to weight said estimated path values; and

an adapted confidence information element with each of said adapted estimated values, wherein said adapted estimated value is computed as follows:

$$\hat{x}_{Adap,n} = \left(\sum_{i=1}^{N} cnfd_{i,n} \times \hat{x}_{i,n} \right) / \left(\sum_{i=1}^{N} cnfd_{i,n} \right)$$

where:

$\hat{x}_{i,n}$ is the estimated value of the symbol received on the path i,

$cnfd_{i,n}$ is the corresponding path confidence information element, and

N is the number of paths; and

a step of weighted-input decoding, ~~supplied by~~ <u>taking into account</u> said adapted estimated values.

16.   (Currently Amended) A method for the reception of a multicarrier signal, ~~former~~ <u>formed</u> by a set of carrier frequencies transmitted simultaneously, implementing at least two reception paths supplied with data flows, each conveying the same source symbols, each of said paths implementing a step of ~~estimation of the~~ <u>estimating of a</u> transmission channel associating, with each source symbol received, an estimated path value and a corresponding path confidence information element, a source symbol being conveyed by a subset of said set of carrier frequencies, said method comprising:

combining and delivering:

an adapted estimated value, obtained from said estimated path values in taking account of said <u>corresponding</u> path confidence information <u>element</u> to weight said estimated path values, and

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an adapted confidence information element with each of said adapted estimated values, wherein said adapted confidence information element is computed as follows:

$$cnfd_{Adap.n} = \sum_{i=1}^{N} cnfd_{i,n}$$

where:

$cnfd_{i,n}$ is the <u>corresponding</u> confidence information element associated with the path i, and

N is the number of paths; and

weighted-input decoding, ~~supplied by~~ <u>taking into account</u> said adapted estimated values.

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